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IN THE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1947

No. 280

FUNK BROTHERS SEED COMPANY,
Petitioner,

vs.

KALO INOCULANT COMPANY,
Respondent.

BRIEF OF RESPONDENT IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

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THE TWENTIETH CENTURY PRESS, INC., CHICAGO

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May It Please the Court:

The issue presented by the petition is one predicated upon an assumption taken by petitioner contrary to the record and constitutes a misinterpretation and distortion of the opinion of the Court below.

The erroneous assumption of the false issue presented is that the Court below has upheld a patent monopoly "on a discovery of a law of nature and how it works, the patentee adding nothing to the operation of the law of nature either in mechanism or method." (Petition, p. 2.) On the contrary, the opinion of the Court below expressly found that the patentee (R. 824):

> ". . . did much more than discover a law of nature. He made a new and different compo[illegible]ion, one contributing utility and economy to the manufacture and distribution of commercial inoculants."

In essence, the petition really presents for review by this Court no more than a question of fact, *i.e.*, alleged lack of invention in an ordinary patent case, this question having been resolved in favor of respondent by the Court below on the basis of certain findings of fact made by the trial court and after a thorough re-examination of the evidence.

Petitioner does not challenge the concurrent findings of infringement made by the Courts below and significantly did not file a petition for rehearing.

While the facts of this case are clearly and accurately stated in the opinion of the Court of Appeals (R. 817-833, 161 F. (2d) 981), a short restatement of the matter involved is necessary because petitioner's statement wholly fails to disclose the real situation involved; it omits or minimizes essential facts, and is in sore need of correcting and supplementing.*

From our restatement and our comments on the petition's reasons for allowance of the writ, it will appear convincingly, we submit, that this is an ordinary patent infringement case involving the usual issues of validity and infringement; that no novel principle of patent law is present; that the opinion of the Court below is in harmony with the decisions of this Court; that there is no conflict between Circuit Courts of Appeals regarding the validity or scope of respondent's patent or regarding the applicable rules of decision; and that there are here no questions of importance to the public, as distinguished from the parties. In these circumstances, this Court has said that it will not grant writs of certiorari. *Keller* v. *Adams-Campbell Co.*, 264 U. S. 314, 319; *Layne & Bowler Corp.* v. *Western Well Works*, 261 U. S. 387, 393.

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* From *Furness, Withy & Co., Ltd.* v. *Yang-Tsze Ins. Ass'n. Ltd.*, 242 U. S. 430, 433, it appears that a respondent's duty to bring the real situation to the attention of this Court is no less than that of a petitioner.

Petitioner's effort to take advantage of the precedent established by *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 305 U. S. 47, 50, must fail also because it appears from petitioner's own statement that there are seed inoculant manufacturers located beyond the Seventh Circuit (Petition, p. 31). Thus, admittedly, it cannot be said that there is no probability of litigation in other circuits or of conflict among the circuits as to respondent's patent, and, therefore, the rationale of the *Schriber-Schroth* case is inapposite. In any event, the inaccuracy and grossly misleading character of petitioner's unverified assertions regarding an alleged concentration of the industry in or subject to the Seventh Circuit are revealed by the affidavit of Myron E. Lusk, presented herewith as an appendix to this brief (*post*, p. 28).

RESTATEMENT OF THE FACTS.

Prior to the Bond invention it was the general practice in the inoculant industry to manufacture and sell for use by the farmer only so-called single cultures or single inoculants (R. 142 and 147). Each inoculant contained only one species of root nodule bacteria, and accordingly could be employed successfully only on the plants of the particular cross-inoculation group corresponding to this species. Thus, in order to supply inoculants to an agricultural area wherein the principal crops include clover, alfalfa, and soy beans, for example, it was necessary for the dealer to maintain a stock of clover inoculant, a separate stock of alfalfa inoculant, and a separate stock of soy bean inoculant. In addition to requiring larger inventories, this practice of supplying single inoculants resulted either in an inadequate supply of inoculants for the farmer toward the end of the planting season or in loss to the dealer and the manufacturer if substantial stocks of the inoculant were left over at the end of the planting season (R. 140-141).

A mixed or composite inoculant, as distinguished from a single inoculant, contains root nodule bacteria of two or more species and may be used by the farmer to inoculate leguminous crops of more than one cross-inoculation group. To a layman it would seem, as it did to the early workers in the inoculant art, that the provision of a mixed culture would offer no problems over and above those involved in the provision of a single culture. Certainly the mere step of including one or more additional species of root nodule bacteria in the usual single culture would appear to offer no technical problems. Experience, however, prior to the Bond patent, was directly to the contrary.

As early as 1907 the advantages of mixed cultures were recognized and explained (see Earp-Thomas patent No. 865,965, R. 784, ll. 6-18, R. 785, ll. 57-76). During the ensuing decade various mixed inoculants were advertised for sale accompanied by glowing promises and extravagant claims as to beneficial results, but these products without exception were failures and disappeared from the market. The record establishes (R. 142) that there were no mixed cultures for field legumes on the market at the time the product of the Bond patent was first introduced to the trade. Prior to the Bond invention mixed inoculants had fallen into disrepute. They were considered impractical and were not offered for sale in competition with single cultures.*

The "Bible" of the inoculant industry (R. 125), published in 1932, and entitled "Root Nodule Bacteria and

* Mr. Bond testified (R. 137):

"The results obtained with these cultures were very uncertain. Sometimes they didn't even form nodules on the plants for which they were recommended. In other words, the need for a mixed culture was shown in the early history of these mixed cultures but none of them survived on the market, to my knowledge anyway, much after 1930 when there were more intensive culture tests made by the State and the United States Government institutions."

Leguminous Plants," by Edwin Broun Fred, Ira Lawrence Baldwin and Elizabeth McCoy, University of Wisconsin Studies, states at page 244 (R. 398) that "composite cultures offer few* advantages and certainly many disadvantages," and at page 254 (R. 401) that "it is desirable to have only the one type of organism in the culture."

The scientific investigations into the efficiency of mixed cultures and the causes of the failure of mixed cultures to provide the same degree of nitrogen fixation as single cultures prior to the Bond invention all pointed in the same direction, *i.e.*, toward the impracticability or even impossibility of producing a mixed culture which would have the same ability to promote nitrogen fixation when applied to leguminous plants as would a plurality of single cultures containing the same strains of bacteria. The deficiency of mixed cultures was ascribed to an inhibitive effect exerted by the different species of bacteria on each other which reduced the efficiency of the bacteria. In other words, although the different species of bacteria were found to be capable of living together, they would for some reason not function as well in association with each other as when used alone.

The most extensive investigation of this inhibitive effect made prior to the Bond invention is found in a report by Max Kronberger of the Bavarian Agricultural Institute for Plant Culture and Plant Protection, Munich, Germany (PX 11, R. 383-394).**

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* Emphasis ours throughout unless otherwise noted.

** Kronberger concluded (R. 393) that the mutual inhibition between different species of root nodule bacteria in so far as the nitrogen-fixing ability is concerned, was probably due to the differences in the metabolic products released by the different species, and he stated his ultimate conclusion to be (R. 394):

> ". . . And not the least important fact that can be seen from these experiments is that it would be a great mistake to use a universal inoculation material for the various types of legumes. **This would never give the same increase in yield as the employment of the particular culture indigenous to the plant.**"

The apparently insurmountable inhibitive effect encountered in mixed cultures was not the only difficulty involved in the preparation of a satisfactory product. It had long been known that the different species of root nodule bacteria were characterized by different rates of growth, some being very fast growers and some being very slow. Accordingly, placing two or more species of root nodule bacteria in a nutrient rich base, as had been suggested and taught in the prior patents and literature, would result in the faster growing species overgrowing the slower ones to the extent that by the time the product was to be used, there would be either a deficiency or a complete absence of the slower growing species of bacteria in the purported mixed culture. Dr. Erdman, one of petitioner's experts, commented on this problem in a report dated June 10, 1938, in which he criticized and undertook to demonstrate the impracticability of mixed cultures prepared in accordance with the teachings of the Bond patent.*

The problem faced by Mr. Bond was two-fold: first, the elimination or correcting of the mutually inhibitive effect, and second, insuring that the final product would contain the proper number of live and active bacteria of each species throughout the intended useful life of the product. The solution of this apparently insoluble problem by Mr. Bond stems from his extensive experiments which resulted in the unheralded discovery that there exist in nature certain strains of each species of root nodule bacteria which do not exert a mutually inhibitive effect on each other. Bond thereupon conceived that such mutually non-inhibitive

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* Erdman said (R. 145):

> "Another factor, which might seriously interfere with the efficiency of such a culture is the rate of growth of the different legume bacteria. . . . **It would be almost suicidal** to mix a slow growing organism like the soybean bacteria with fast growers like the alfalfa and red clover bacteria. Such a culture if prepared, say in January, would theoretically contain relatively few soybean bacteria when it would be used on soybeans in May or June."

strains could by proper methods of selection and testing be isolated for use in mixed cultures, and a final product containing throughout its expected life a sufficient number of live and active bacteria of each species, could be achieved by employing a base material substantially free of nutrients and by initially adding to this base material large numbers of the non-inhibitive strains of each species of bacteria, the number of each species being of substantially the same order of magnitude (R. 103).

Of this solution the Court below said (R. 824):

". . . This was application of scientific knowledge to things existing in nature and the utilization of them in a desirable composite product which had not been previously achieved but which he did achieve and of which the public now has the benefit.

"We think this is clearly within the decisive definitions of patentable invention. . . ."

Further the Court said (R. 827):

". . . So here Bond did a novel thing in the science of culture of bacteria to inoculate leguminous plants. He knew what other scientists already had suggested that certain strains worked adversely and detrimentally to each other. Delving further, he learned for the first time that various strains of the genus are non-inhibitive of other strains and can be grouped, with an entirely healthy result. As a result of his teachings, scientists learned how to make a composite inoculant without disastrous conflict of one species of bacteria with another. True, the composite inoculant had been thought of and practiced to some extent, but just as truly it had not achieved approved recognition. Indeed, scientists thought that it was a dangerous practice, and Bond, for the first time, pointed out to the bacteriologist the fact of existing non-inhibitive strains and instructed him that he should select such strains and make his composite inoculant of them. Thus he taught how to make a composite inoculant, successful, efficient and filling the need it was meant to fill. . . . It is inventive conception."

The claims in suit define a new product, *i.e.*, a mixed inoculant which is as efficient as single inoculants employing the same strains of bacteria. The patent does not purport to cover a "discovery of a law of nature," but rather a new product which prior to the discovery of a scientific truth and the application of scientific knowledge did not exist and could not have existed.

Petitioner at the trial and before the Court of Appeals based its "law of nature" defense on the assertion that Bond's theory of inhibition was false. Petitioner's experts testified that inhibitive strains do not exist. On this testimony petitioner urged that Bond therefore discovered nothing new, and that the product of the Bond patent was old in nature. This fact issue was determined against petitioner by the trial court, who commented on the "very great diligence and ingenuity" exercised by Bond (R. 744). The Court of Appeals reviewed the evidence on this fact issue, and, referring to the specific finding made by the District Judge, said (R. 820):

> ". . . However, he made a specific finding that Bond did discover that there exist in nature noninhibitive strains and that these noninhibitive strains may be selected, isolated and combined and still perform satisfactorily their ordinary desirable functions. Upon this finding there was controverted evidence, but our examination of the record is convincing that that supporting the finding is rather conclusive and that there is no justification for us to declare the District Court in error in making it."

Thus the concurrent findings of the courts below establish the diligence and ingenuity exercised by Bond, the merit of the results achieved, and the novelty and utility of the patented product. It is of this fact issue that petitioner indirectly seeks a review by its false statement of the issue and by its continued assertion that Bond "added nothing to the operation of the law of nature."

In answer to identical assertions by petitioner, the Court below said (R. 824):

> "... The noninhibitive property of bacteria was not previously known and when Bond discovered it and taught a successful composition of noninhibitive strains in combination of elements in one inoculant operating successfully on several different groups of legumes, **he did much more than discover a law of nature.** He made a new and different composition, one contributing utility and economy to the manufacture and distribution of commercial inoculants."

ARGUMENT.

I.

THE COURT BELOW DID NOT UPHOLD THE BOND PATENT IN SUIT FOR MERELY DISCLOSING AND CLAIMING THE DISCOVERY OF A LAW OF NATURE.

From the foregoing restatement of the facts, it is quite evident that the principal issues raised by petitioner concerning the abstraction "law of nature," and said to arise in this case, are not warranted by the real situation. As this Court consistently refuses to decide questions for which there is no substantial basis in the particular facts of a case (*Southern Power Co.* v. *North Carolina Public Service Co.*, 263 U. S. 508; *United States* v. *McFarland*, 275 U. S. 485; *Missouri-Kansas-Texas R. R. Co.* v. *Texas*, 275 U. S. 494), we note preliminarily that the first, second, and fourth reasons of the petition are grounded upon petitioner's erroneous assumption that the Court below has held that Bond merely patented a law of nature, this being the defense of petitioner which is predicated, as we have shown, upon the testimony of petitioner's experts that the Bond theory of inhibition is false. Thus each of these reasons depends upon disputed and controversial facts as disclosed by the evidence upon which the Court below decided the fact of invention adversely to petitioner. These reasons, therefore, are no more than disguised requests that this Court find the facts different from those found by the Court below. The following comments as to each of these reasons dealing with "law of nature" also show that legally they are without merit.

1. The Opinion of the Court Below Is not in Conflict With the Principles of Decisions of this Court.—The main trouble with petitioner's first reason is that the Court below found the novelty and utility of Bond's composite inoculant to reside, not in Bond's discovery of a law of nature *per se*,

but, rather, in the application and utilization by him of a law of nature in a manner previously regarded as "dangerous practice," thereby to produce a composite inoculant "successful, efficient and filling the need it was meant to fill" (R. 827). Thus, the Court held that Bond "did much more than discover a law of nature. He made a new and different composition, one contributing utility and economy to the manufacture and distribution of commercial inoculants" (R. 824). This ruling is in entire harmony with the decisions of this Court which, from *LeRoy v. Tatham, et al.*, 55 U. S. 156, to *Mackay Radio & Tel. Co. v. Radio Corp. of America*, 306 U. S. 86, 94, have consistently recognized that application of a law of nature or utilization of scientific knowledge to or in a novel and useful structure or product is patentable invention.

There is a decided difference between merely claiming the discovery of a law of nature and claiming either a machine, process, article of manufacture or composition of matter in which a natural law or force is utilized. This difference has never been ignored by this Court. Many of the most important inventions have necessarily applied or made use of an agency of nature for a practical purpose. Valuable contributions to the advancement of the arts and sciences—inventions which have changed the face of human society and civilization—have been made by simply putting a force of nature into a specified condition and then using that force in that condition for a practical purpose. He who first discovers that a law of nature can be made operative for the production of a valuable result is an inventor of the highest order, and a public benefactor. This Court has never repudiated this salutary criteria of patentable invention.

It is not necessary to examine all of the cases in this Court which have given effect to the qualification or exception to the general rule. It is sufficient to cite, as an apt

illustration, the *Telephone* cases, 126 U. S. 1, 534, where it was said:

> "In the present case the claim is not for the use of a current of electricity in its natural state as it comes from the battery, **but for putting a continuous current in a closed circuit into a certain specified condition suited to the transmission of vocal and other sounds, and using it in that condition for that purpose.** So far as at present known, without this peculiar change in its condition it will not serve as a medium for the transmission of speech, but with the change it will. **Bell was the first to discover this fact, and how to put such a current in such a condition, and what he claims is its use in that condition for that purpose,** just as Morse claimed his current in his condition for his purpose."

So in the case at bar, the Bond composite inoculant involved the use of one of the agencies of nature for a practical purpose. The patentable invention which has been upheld is one which involved the inventive conception of putting a force of nature into a certain specified condition and then using it in that condition for a practical purpose.

In *LeRoy* v. *Tatham et al.*, this Court qualified the general rule upon which petitioner relies when it said (55 U. S. 175) that "A new property discovered in matter, when practically applied, in the construction of a useful article of commerce or manufacture, is patentable," and quoted the following sound pronouncement from *Household Co.* v. *Nielsen*, Websters Pat. Cases, 683:

> "A patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, **if that principle is by the specification applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained.**"

The ruling of the Court below upholding the Bond patent is based precisely upon the foregoing qualification of the general rule. This is shown unanswerably by the following quotation from Judge Lindley's opinion when, in speaking of Bond's patented inoculant, he said (R. 824):

> "... This was application of scientific knowledge to things existing in nature and the utilization of them in a desirable composite product which had not been previously achieved but which he did achieve and of which the public now has the benefit."

It is quite unnecessary to consider at length the other decisions of this Court cited by petitioner in support of its first reason, as none of them modifies the fundamental rules established by *LeRoy* v. *Tatham* and the *Telephone Cases* with which the opinion below is in harmony. Thus, *O'Reilly* v. *Morse*, 56 U. S. 62, merely held that Morse's eighth claim was "too broad, and not warranted by law," and, together with *Le Roy* v. *Tatham*, establishes the rule that a principle, function or result, without more, may not be patented. *Rubber-Tip Pencil Co.* v. *Howard*, 20 Wall. 498, invalidated a patent for a rubber head for pencils which merely showed making the hole in the rubber head smaller than the pencil to be inserted in the hole. It was admitted by this Court that a new device by which an idea is made *practically useful* is patentable. Petitioner's quotation from *Burr* v. *Duryee*, 1 Wall. 531, 570, is taken from this Court's discussion of the scope to be given to Wells's machine patent as influenced by the then statutory requirement that a patentee set forth in his specification "the principle and the several modes in which he has contemplated the application of that principle." This Court, of course, concluded that the inventor of a machine improvement cannot have a claim to the "whole art, discovery, or machine which he has improved." *Smith* v. *Nichols*, 21 Wall., 112, 119, stands only for the proposition that a mere

change in degree is not patentable invention. *Corona Co.* v. *Dovan Corp.*, 276 U. S. 358, was really concerned with whether one Kratz or the patentee Weiss was the first discoverer of a certain vulcanization accelerator, this being the issue on which different circuits had disagreed thereby resulting in the case being brought here. Claims 1, 4 and 9 of the patent appear to have been invalidated also on the ground that they related to an entire group of compounds without any showing having been made that there was a general quality common to all members of the group. In *De Forest Radio Co.* v. *General Electric Co.*, 283 U. S. 664, the Langmuir patent on the high vacuum discharge tube was invalidated upon the basis of prior publication by one Lilienfeld. It was claimed for Langmuir that the prior tube was not practical, but this Court ruled that such contention was inadmissible and that the question at hand was essentially whether the earlier workers had showed "how it could be made and demonstrated and disclosed the relationship of the discharge to reduced pressure, and how to reduce it.".

When a new and different product, of benefit to the public, is produced by application of a law of nature, it cannot be denied that such an invention or discovery is entitled to the protection of our patent system. The opinion of the Court below upholding the Bond patent in suit is in harmony with the principles of decision which have been formulated by this Court. On the actual facts as found by the Court below, there is no need for any exposition by this Court of these well-settled rules of the patent law.

2. The Opinion of the Court Below Is not in Conflict With Decisions of Other Circuit Courts of Appeals.—It having been demonstrated that the decision of the Court below is in harmony with the applicable rules of decision of this Court, it follows that if there is conflict among the

circuits, as averred in the second reason of the petition, this is not the case in which to resolve the conflict and the departure from the decisions of this Court has been made by circuits other than the Seventh Circuit. However, petitioner's discussion of the second reason is so grossly misleading that we are compelled to make a brief reply to it.

It is averred by petitioner that there is a conflict between the Seventh Circuit Court of Appeals and the Ninth Circuit Court of Appeals; it is claimed that the Honorable Evan A. Evans, Senior Circuit Judge of the Seventh Circuit, extrajudicially admitted in a speech made by him, that *Dennis et al.* v. *Pitner et al.*, 106 F. (2d) 142, which was cited and followed in the case at bar, is opposed to and in conflict with *Vitamin Technologists, Inc.* v. *Wisconsin Alumni Research Foundation* (C. C. A. 9), 146 F. (2d) 941.

In fairness to Judge Evans, it must be noted that the opinion of the Ninth Circuit Court of Appeals, with which Judge Evans disagreed in his remarks delivered before the Pittsburgh Patent Law Association, is not the final opinion reported at 146 F. (2d) 941. It is most misleading and unfair to say that Judge Evans publicly announced that in *Dennis et al.* v. *Pitner et al.*, the Court below had reached a conclusion opposed to that announced in the *Vitamin* case without explaining that Judge Evans was then referring to the Ninth Circuit opinion, which was rendered on June 30, 1943, and "suddenly withdrawn" on petition for rehearing. That opinion is reported only in 58 U. S. P. Q., 293.

In the first opinion filed in the *Vitamin* case, the Ninth Circuit Court of Appeals, on the authority of its earlier decision in *Wall* v. *Leck*, 66 Fed. 552, invalidated the Steenbock patent as being an attempt to monopolize a natural process. Thus the court said (58 U. S. P. Q. 295):

> ". . . Steenbock's valuable scientific certitudes are discoveries, but they are not inventions within the

meaning of the term 'invention' as used by the Congress in its patent laws. This court so determined in one of the able opinions of District Judge Hawley in Wall v. Leck, 66 F. 552 (CCA-9)."

On reconsideration, however, a majority of the Ninth Circuit Court of Appeals reversed themselves on the law of-nature defense and said (146 F(2d) 949):

"D. The Patents Are Not Invalid Because in the Process of Preparing Foods for Exposure of Their Activatable Lipoids and Their Exposure to the Ultra Violet Rays of the Sun or Lamp Is Utilized the Natural Force of Sunlight or a Force Like It From the Lamp.

"Appellant also argues that the patents seek a monopoly of the ultra violet rays of the sun or lamp, a natural force, and are hence invalid under our decision in Wall v. Leck, 9 Cir., 66 F. 552. **We do not agree.**"

Thus, there is no difference between the views of the Ninth and Seventh Circuit Courts of Appeals. Judge Evans disagreed with the first, or withdrawn, opinion in the *Vitamin* case. No one has ever claimed that he disagrees with the present opinion, which is in accord with the decisions of this Court, with *Dennis* v. *Pitner*, and with the opinion of the Court below in the instant case.

It is also asserted by petitioner that the decision of the Court below is in conflict with the case of *Morton* v. *New York Eye Infirmary*, 17 Fed. Cas. 879, 881, this being cited as a "C. C. A. 2" decision (Petitioner's Brief, p. 29), evidently to mislead this Court into believing that the decision was rendered by the Circuit Court of Appeals for the Second Circuit. Actually, this decision was rendered by the Circuit Court of New York, and not by the Second Circuit Court of Appeals, and does not, according to our understanding of the certiorari practice, present the type of

conflict which warrants the issuance of the writ. The *Morton* case, however, recognizes the exception to the general rule, and expressly points out that where the inventor has laid hold of a law of nature and connected it with some particular medium or mechanical contrivance, "by which, or through which, it acts on the material world, . . . he can secure the exclusive control of it under the patent laws." This is precisely the reasoning applied by the Court below in upholding the Bond patent in suit.

It is next claimed that the decision of the Court below is in conflict with the decision of the Fourth Circuit Court of Appeals in *Novocol Chemical Mfg. Co., Inc.* v. *Powers & Anderson Dental Co., Inc.*, 128 F. (2d) 904, 907. In that case, all that the patentee had done was to satisfy himself that the cause of discoloration of epinephrin was oxidation, and not contact with the rubber or glass of the containers used, and he sought a patent upon the idea of enclosing the epinephrin cartridges in an air-tight can. In these circumstances, it was held that there did not seem to be any "great originality of thought" to conclude that "some air was reaching the solution" in the previous attempts to produce air-tight cartridges. Thus, the court said (907):

> "The remedy was obvious and one of long practice, consisting merely in putting the product in an air-tight container for the purpose of preventing contact with the air."

In the case at bar, it is abundantly established that the remedy or solution constituting Bond's invention was not obvious; neither was it one of long practice, as was true in the *Novocol* case. The *Novocol* case and the instant case are entirely different. Each has been properly decided on its own facts, and the very most that can be said of these two cases is that the courts on different facts have reached different results. These different results were of necessity

inevitable because of the legal requirement that each case be decided on its own particular facts.

It is also urged that the decision of the Court below is in conflict with many decisions and particularly those of the First, Third, and Sixth Circuits, in cases cited on pages 8 and 9 of the petition. We wish to note that no Third Circuit cases have been enumerated in the petition, and in the absence of a discussion by petitioner of the alleged conflicting First and Sixth Circuit cases, there is no need for a detailed discussion of the decisions. We are content to observe that a careful examination of all the cases cited fails to reveal any conflict among the circuits.*

There is thus no occasion to resolve in this case any real conflict between the Circuit Courts of Appeals. We have failed to find any difference of opinion among the courts as to the proper application of the rules of decision formulated by this Court. The results reached in all of the cases are reconcilable, and there is no conflict among the courts of the sort which the prior decisions of this Court have held were essential to move it to grant a writ of certiorari.

3. The Inoculant Disclosed in the Bond Patent in Suit Is Properly Classifiable as a Composition of Matter. The Claims in Suit are not Invalid Merely Because Bond's Inoculant Makes Useful Application of a Law of Nature.— The fourth reason of the petition is a restatement of the first reason in slightly different form, and constitutes a re-

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* *Katz* v. *Horni Signal Mfg. Corporation* (C. C. A. 2), 145 F. (2d) 961, does not support petitioner's contentions and is, indeed, an excellent example of the reckless character of petitioner's assertion that the case at bar is in conflict with the ordinary rule. It is to be noted that the patent in the *Katz* case was sustained as being for a device which made "a **highly useful application** of one of Faraday's discoveries." Counsel apparently refer to a single sentence which appears by way of preliminary introduction in the opinion of the court, an abstraction with which we have no quarrel, namely, that discoveries of mere general scientific laws, *without more*, are unpatentable.

argument by petitioner of its falsely conceived defense that the Bond patent merely describes and claims the discovery of a law of nature. Petitioner contends that there can be no patentable invention "when the discoverer does nothing but use the natural phenomena or attribute in its natural form, without change. . . ." There is absolutely no warrant for this restrictive and unreasonable construction of our patent laws. Certainly the decisions cited by petitioner do not support it. The true rule is that set out and recognized by this Court at an early date in *Le Roy* v. *Tatham* and restated recently in *Mackay Radio & Telegraph Co.* v. *Radio Corp. of America*, 306 U. S. 86, 94, where it was said:

> "While a scientific truth, . . . is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be."

It is not required that the natural force be used in a manner other than that in which it performs in nature. It is not required that the natural force be modified or changed. All that is necessary is that the natural force be placed in a specified condition and used in that condition for a practical purpose.

That the Bond composite inoculant is a true composition of matter appears from the opinion below, thus (R. 823):

> ". . . in fact the evidence is clear that what he discovered was that certain existing bacteria do not possess the mutually inhibitive characteristics which had previously prevented a successful commercial composite inoculant and that those uninhibitive species may be successfully combined. It was this contribution of non-inhibitive strains which **successfully combine** that brought about **a new patentable composition.**"

As used in the patent statute (R. S. 4886, 35 U. S. C. § 31), the words "composition of matter" only presuppose a combination of elements except, of course, that novelty,

utility and invention are required. The phrase "covers all compositions of two or more substances. It includes all composite articles whether they be results of chemical union or of **mechanical mixture** . . . " (Walker on Patents, Deller's Ed.) Section 14, page 55. See also *Keasbey & Mattison Co.* v. *Philip Carey Mfg. Co.* (C. C. New York), 139 Fed. 571, 573; *Union Carbide Co.* v. *American Carbide Co.* (C. C. A. 2), 181 Fed. 104, 106-7; *J. E. Baker Co.* v. *Kennedy Refractories Co.* (C. C. A. 3), 253 Fed. 739.

Actually, in presenting its fourth reason, petitioner is contending that no invention was made by Bond in the production of his composite inoculant.* When petitioner asserts that Bond did nothing more than use a natural phenomenon or attribute in its natural form without change, for the same purpose it performs in its natural habitat in an old way, petitioner is arguing a question of fact decided adversely to petitioner by the Court below. Thus, the Court below said (R. 827):

> "'. . . an inventive concept may reside in the selection of a part or parts of numerous old elements. If the selection is unusual and a hitherto unsolved problem is overcome, it answers the tests of the statute and, in the absence of other limiting features, will achieve invention. So here Bond did a novel thing in the science of culture of bacteria to inoculate leguminous plants. . . . 'Thus he taught how to make a composite inoculant, successful, efficient and filling the need it was meant to fill. . . . It is inventive conception."

Nor is the decision in this case in conflict with *American Fruit Growers, Inc.* v. *Brogdex*, 283 U. S. 1. That case involved the classic unsuccessful attempt to patent a natural

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*This is emphasized by petitioner's reliance on *Hotchkiss* v. *Greenwood*, 11 How., 248, and *Cuno Engineering Corp.* v. *Automatic Devices*, 314 U. S. 84, which do not in any way involve discussions of the patentability of a law of nature; they were concerned only with the question of invention on the particular facts in those cases; see particularly 11 How., 267.

orange, and is wholly inapposite to the facts of the case at bar. That decision in no way forbids the grant of a patent for a new and useful composition of matter utilizing a natural force for a practical purpose. It was merely held by this Court that the addition of borax to an orange did not produce any change in its name, appearance, or general character, and hence that the claims of the patent did not relate to a "manufacture," as that term had been defined by previous decisions of this Court. No attempt was made by this Court in the *Brogdex* case to annul the qualification to the general rule deducible from *Le Roy* v. *Tatham* and the *Telephone* cases. This, of course, is apparent from the restatement of the qualification to the rule in *Mackay Radio & Tel. Co.* v. *Radio Corp. of America*, 306 U. S. 86, 94. It cannot be said of Bond's composite inoculant, which, as found by the Court below, was new and different and one contributing utility and economy to the manufacture and distribution of commercial inoculant and which achieved an end theretofore unobtainable, as it was said of the orange in the *Brogdex* case, that there had been no change in name, appearance or general character of the subject matter involved. This is the vital difference between *Brogdex* and this case.

II.

THE SEED INOCULANT INDUSTRY IS NOT CONCENTRATED IN OR SUBJECT TO THE SEVENTH CIRCUIT. NO QUESTIONS OF IMPORTANCE TO THE PUBLIC AS DISTINGUISHED FROM THE PARTIES ARE INVOLVED IN THIS CASE.

The third and fifth reasons set forth in the petition do not bear careful examination and when properly considered present no grounds for the allowance of the writ.

On petitioner's own admission there are, in addition to Agricultural Laboratories, Inc., of Columbus, Ohio, three other seed inoculant manufacturers located beyond the territorial limits of the Seventh Circuit, *viz.*:

1. *Nelson Laboratories, Stockton, California.*

2. *Earp-Thomas Laboratories, Inc., Bloomfield, N. J.*

3. *Strassburger & Siegel, Baltimore, Md.*

The affidavit of Myron E. Lusk, annexed hereto as an appendix (*post*, p. 28), shows that there is another manufacturer to be added to this list, *i.e.*:

4. *Pearson and Company, Mobile, Alabama.*

Thus there are seed inoculant manufacturers located in the Third, Fourth, Fifth, and Ninth Circuits, and clearly it cannot be said that there is no probability of litigation on the Bond patent in circuits other than the Seventh, and that there is no probability of conflict among the circuits regarding the Bond patent.

Petitioner asserts that the companies beyond the Seventh Circuit are small ones doing a local business only, and less than ten per cent of the total. But these assertions are not verified and no facts and figures are given from which the correctness of the assertions may be ascertained. Moreover, not only does the Lusk affidavit show the inaccuracy of petitioner's assertions, but it also establishes that Pearson and Company, the seed inoculant manufacturer which was omitted from the petition, is an important factor in the industry, doing a considerable and substantial business. Mr. Lusk, of course, frankly and honestly admits that he is unable to give the volume of his competitors' business in dollars and cents, but nevertheless on the basis of his experience in and knowledge of the industry, he has stated that the percentage figures advanced by petitioner are not correct.

Certiorari was granted in the *Schriber-Schroth* case and in *Exhibit Supply Co.* v. *Ace Patents Corp.*, 315 U. S. 126; *Muncie Gear Works, Inc.* v. *Outboard Marine & Mfg. Co.*,

315 U. S. 759; and *Williams Mfg.* v. *United Shoe Mach. Co.*, 316 U. S. 364, upon showings of a concentration of the industry involved in the circuit which had upheld the patent. Such a showing has not been made in the instant case. There is sharp disagreement between the parties as to the number of inoculant manufacturers located beyond the Seventh Circuit, and the proportion of the total business in and outside that circuit, while wholly irrelevant, is in serious question.

Nor is this case of any greater public and national interest than any other ordinary patent case. Petitioner's assertion that the decision of the Court below vitally affects "fundamental research" and other industries is lacking in basis on the record, for it is assumed again by petitioner, for purposes of this "*in terrorem*" argument, that the Court below has held that a mere discovery of a law of nature is patentable, an assumption which we have abundantly demonstrated to be an erroneous and unwarranted distortion of the opinion of the Court below.

Petitioner's assertion, moreover, that the Bond patent "monopolizes the present methods of raising clover, alfalfa, soy beans, etc., throughout the nation" is not supported, nor could it be, by citation of the record. The record shows that at the time Bond entered the field, the inoculant industry was manufacturing and selling only *single* cultures for field seeds such as clover, alfalfa, and soy beans (R. 142). Since that time only two manufacturers, in addition to respondent, have adopted Bond's mixed culture (R. 147). Respondent still sells single cultures for soy beans (R. 147). Dr. Erdman testified that his company does not produce a mixed culture for alfalfa and clover (R. 237). While the Bond mixed culture is a distinct step forward, and offers important economic advantages in the manufacture and distribution of inoculants, it does not render prior single cultures obsolete, nor does the patent "monopolize . . . an old method of agriculture."

III.

THE BOND CLAIMS DEFINE THE NEW PRODUCT DISTINCTLY AND EXACTLY: THEY FULLY MEET THE REQUIREMENTS OF THE STATUTE (R. S. 4888).

Petitioner's sixth reason is made superficially plausible only by completely ignoring the nature of the patented product. The opinion of this Court in *Halliburton Oil Well Cementing Co.* v. *Walker*, 329 U. S. 1, deals with patent claims to a machine comprising a plurality of old and readily describable elements. The case of *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, to which this Court referred in the passage quoted by petitioner, dealt with product claims and specifically recognized the difficulties that may be encountered in defining the essential qualities of a product and that exceptions to this Court's strict prohibition against the use of functional terms may be desirable in order to meet the requirements of the statute.

The product of the Bond patent involves bacterial life which is customarily described and classified by its physiological characteristics; *i.e.*, what it will do. Thus the clover bacteria, *Rhizobium trifolii*, are distinguishable from the alfalfa bacteria, *Rhizobium meliloti*, not by their physical characteristics, but by the *effect that they have* on clover plants and alfalfa plants. So here, non-inhibitive strains ("alpha" strains) do not differ from inhibitive strains in physical characteristics. As the Court below said (R. 826):

> "There is no weight and measure method by which he (the scientist) may determine the quality or quantity of bacteria . . ."

There is nothing in the statute itself that militates against the use of physiological characteristics to distinctly define the claimed invention, nor has this Court held that a statement of the physiological characteristics is objectionable as "functional." The claims of the Bond

patent define the product with precise exactness in language that cannot be misunderstood and are not subject to the vice of the claims considered by this Court in the *General Electric* case *supra*. There the court said (p. 371):

> "The claim uses indeterminate adjectives which describe the function of the grains to the exclusion of any structural definition, and thus falls within the condemnation of the doctrine that **a patentee may not broaden his product claims by describing the product in terms of function.**"

Here there is no broadening, but rather a definite limiting of the claims, by reciting the non-inhibitive character of the bacteria.

Again in the *General Electric* case, this Court said (p. 371):

> "A limited use of terms of effect or result, which accurately define the essential qualities of a product to one skilled in the art, may in some instances be permissible and even desirable, but a characteristic essential to novelty may not be distinguished from the old art solely by its tendency to remedy the problems in the art met by the patent. And we may doubt whether the language used in Claim 25, taken by itself, conveyed definite meaning to those skilled in the art of incandescent lighting."

There can be no doubt that the language of the Bond claims conveys an exact and definite meaning to those skilled in the inoculant art.

Finally this Court in the *General Electric* case recognized the specific exemption accorded by Congress to plant patents, saying (p. 372, footnote 13):

> "Different considerations may apply under the Act of May 23, 1930, c. 312, § 2, 46 Stat. 376, 35 U. S. C. § 33, providing that no 'plant patent shall be declared invalid on the ground of non-compliance with this sec-

tion if the description is made as complete as is reasonably possible'."

Although the Bond patent is not a plant patent and thus not strictly subject to the exception, the impossibility of describing, other than by their physiological characteristics, living bacteria which differ only in these characteristics, is analogous to the difficulties of plant description recognized by Congress and should be likewise recognized where, as here, the claims clearly fix the limits of the invention.

CONCLUSION.

Petitioner's attack in the Courts below upon the validity of the Bond patent in suit consisted chiefly of the "law of nature" defense which in turn depended upon the testimony of petitioner's experts that the theory of the Bond patent is false and that noninhibitive bacterial strains do not exist: in other words, that Bond's composite inoculant is not new, different or inventive, but is no more than an exemplification of a law of nature and how it works, Bond adding nothing thereto. The trial court made a specific finding of fact as to the existence of Bond's noninhibitive strains, and thus rejected the testimony of petitioner's experts. Such testimony was urged again upon the Circuit Court of Appeals, and upon an examination of all the evidence that court refused to disturb the trial court's findings. Although petitioner has presented the "law of nature" issue as a broad legal one, it is really one of fact and dependent upon acceptance of the twice rejected testimony

of petitioner's experts. Hence, as this Court said in *Bodkin* v. *Edwards*, 255 U. S. 221, 223:

> "The case as presented here turns essentially on questions of fact. Both courts below on a review of the evidence have found the facts in the same way. This court under a settled rule, accepts such concurring findings unless clear error is shown."

The decision below is correct. It is in accord with applicable decisions of this Court and is not in conflict with decisions of other Circuit Courts of Appeals. This case, moreover, does not involve any principles, settlement of which is of importance to the public as distinguished from the parties.

It is respectfully submitted that the petition for a writ of certiorari should be denied.

Respectfully submitted,

J. Bernhard Thiess,
Sidney Neuman,
M. Hudson Rathburn,
Counsel for Respondent.

APPENDIX

IN THE

Supreme Court of the United States

OCTOBER TERM, 1947

No. 280

FUNK BROTHERS SEED COMPANY,
Petitioner,

vs.

KALO INOCULANT COMPANY,
Respondent.

AFFIDAVIT OF MYRON E. LUSK

STATE OF ILLINOIS }
COUNTY OF ADAMS } ss:

MYRON E. LUSK, being duly sworn, deposes and says:

I am President and General Manager of Kalo Inoculant Company, respondent in the above-entitled case, and have been engaged in the inoculant business for over fifteen years. I am familiar with the inoculant business in the United States and with the inoculants produced by substantially all of the manufacturers thereof.

I am familiar with the United States Department of Agriculture publication Circular 724, referred to on page 31 of petitioner's brief, and with similar publications of this

same character. It is my undertsanding that these publications do not purport to present a report on the condition of the inoculant industry, but merely report on the products that have been purchased by field representatives and tested by the Department of Agriculture during specified periods. To my knowledge the list of manufacturers given in the said Circular 724 is not complete for the years 1943-1944, for the reason that it omits two companies that were, to my knowledge, manufacturing legume inoculants during the period which the circular purports to cover. Certainly, it cannot be accepted as presenting a complete picture of the inoculant industry at the present date.

The list of manufacturers beyond the Seventh Circuit presented on pages 31 to 33 of petitioner's brief, fails to mention Pearson and Company of Mobile, Alabama, which company manufactures legume inoculants and is a substantial factor in the industry.

While no published information is available as to the actual volume of business done by the industry as a whole or by individual manufacturers, I have made a careful analysis based on my knowledge of the business done by the Kalo Inoculant Company in various parts of the country and on information received from jobbers and others whom I consider reliable.

On the basis of this analysis I do not agree with the statement in petitioner's brief that the "companies in the Seventh Circuit plus Agricultural Laboratories, Inc., do well over 90% of the business." Based on reliable information that I have received relative to the quantities of raw materials that are being purchased by Pearson and Company, and on my knowledge of how the inoculant business is conducted, I can state that this company is a substantial factor in the inoculant industry and is buying for a production that would equal 10% of the business in the industry.

Based on the experience of Kalo Inoculant Company, respondent herein, I believe that over 75% of the total inoculant business done by companies located in or subject to the Seventh Circuit, consists of two single culture inoculants for two legumes that normally are not grown in the same parts of the country. Consequently these two single culture inoculants are never handled in substantial quantities by the same dealers, and the Bond mixed culture therefore has no economic application to these. If this volume of business is eliminated, the companies outside the Seventh Circuit would, to the best of my belief, rate with the companies in or subject to the Seventh Circuit and would thus represent approximately one-third of the business to which the Bond patent relates.

The inoculant industry as a whole is a small industry, and it is my belief that the total sales of the eleven companies which today make up this industry, amounted to substantially less than three quarters of a million dollars for the year 1946. Furthermore, all of the companies in the industry are small companies. The Kalo Inoculant Company, respondent herein and owner of the Bond patent, is I believe at least second or third in the industry in volume of sales. This company is capitalized for only Sixteen Thousand Dollars ($16,000.00) and maintains a payroll that varies from a minimum of 7 employees to a maximum of only 19, depending upon the season of the year.

MYRON E. LUSK,

Subscribed and sworn to before me this 3rd day of September, 1947.

WALTER A. MEIDBREDER,
Notary Public

My commission expires September 28, 1947.

SEAL